



**SPARES for ROYAL ENFIELD & AMAL**

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## **AMAL 32mm Mk2 Carb Kit: Part No. 200115**

### **Manifold Studs:**

Please note the studs supplied in the alloy manifold are a combination of threads. They are M8 on one end and 5/16 cycle on the other. On earlier engines 5/16 cycle studs hold on the existing carburettor manifold, these will need replacing, as they are too long. Please ensure you use the end of the stud with the fine thread.

On later models, M8 Cap screws are used. These will need to be replaced by using the coarser end of the stud.

### **Tuning Instructions:**

When fitting the Mk2 Amal Concentric Carburettor to your engine, check the following points:

1. The rubber flange adapter fits correctly with no air leaks. Do not over tighten the clips, which could split the rubber.
2. The throttle cable(s) are of adequate length and there is adequate movement of the inner wire for the throttle valve to close completely.
3. Petrol pipes must be connected tightly to the banjo to prevent leaks and in such a way that the carburettor is not prevented from moving on its rubber mounting.
4. There must be a good connection to the air cleaner if one is used.

#### **Starting from cold**

Depress lever, or if cable operated, open the handlebar lever. This will introduce the cold start jet system, which is completely separate from the main jet system. It will introduce over-rich mixture on the engine side of the throttle valve. Do not open the throttle valve more than one quarter or the cold start system will not work so well. The jet normally fitted is number 50. This can be changed for alternative sizes if extreme conditions are experienced.

#### **Tuning sequence**

To obtain correct carburation for any stated fuel, assuming that the correct size carburettor is fitted, the sequence is as follows:

1. Main jet for power at full throttle
2. Pilot air adjuster for idling speed
3. Cutaway for take-off from the pilot jet
4. Needle jet and needle position for clean carburation between one quarter and three quarters.

#### **1st: Main jet**

If at full throttle the engine runs heavily and does not pull at full power, the main jet is generally too large. If the engine fades and perhaps deteriorates with possible detonation, then the jet is too small. With the correct size the engine should run freely at maximum rpm giving good power. When testing for the correct main jet, give careful attention to spark plug readings; the correct colour will be light brown or chocolate colour surrounding the central electrode.

#### **2nd: Pilot jet**

The pilot system governs engine tickover and can affect pickup and transmission to the main system. Choose a jet that when the engine is set for steady idling, the pilot screw is one and a half turns from its seat. If the adjuster is further on its seat, a larger jet is needed, conversely if the adjuster is screwed out a long way a



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smaller jet is needed. There are two alternative pilot jet locations; the one in the float bowl is generally considered best for four stroke engines that located in the body beneath the air tube usually best for two stroke engines. This is not a hard and fast rule and the reverse may sometimes be the case. Irrespective of engine type, when the carburetter is mounted in a down draught attitude, the pilot jet should be placed in the mixing chamber body.

#### **Throttle valve cutaway**

The throttle valve governs transition from idling to the main system and also influences response at small throttle openings. When opening the throttle, if the engine fades or spits back through weakness, a smaller cutaway is needed. If the engine runs unevenly and heavily, a larger cutaway is needed. The main influence of the throttle valve takes effect up to one-third throttle opening.

#### **Needle jet and needle position**

These influence the range from one quarter to three quarter's throttle: the needle jet, mainly the lower half of the range and the needle the upper part of this range. It is important to get the right combination. Usually the needle jet supplied with the carburetter is the correct one for that instrument. Raising the needle produces a richer mixture and lowering, conversely, a weaker mixture. If it is necessary to go to the extreme of the adjustment in either direction, then probably the next sized needle jet, up or down, could be utilised usefully with some further re-adjustment of the needle position. There are two different systems for four stroke and two stroke engines; refer to the parts list to ensure that the correct type is used. Always use the correct combination of needle and needle jet as a set.

#### **Air jet**

This controls the amount of air, which pre-atomises the fuel before it enters the mixing chamber body. Normally the air jet fitted as standard for the particular size of carburetter should be correct, but it is a component that can be changed should the depression on the main jet need to be influenced. Fitting a smaller jet will increase the depression while a larger jet will reduce the depression.

All of these adjustments overlap to some extent and in order to obtain the optimum setting it may be necessary to go through this procedure more than once to get the final degree of accuracy.

#### **Air filters**

These may affect the jet setting, so if one is fitted afterwards to the carburetter the main jet may have to be smaller. If a carburetter is set with an air filter and the engine is run without it, take care not to overheat the engine due to too weak a mixture.

#### **Effect of altitude on the carburetter**

Increased altitude tends to produce a rich mixture. The greater the altitude, the smaller the main jet required. carburetters ex-works are set for altitudes up to 3,000 to 6,000 feet should have a reduction in main jet size of 5 % and thereafter, for every 3,000 feet in excess of 6,000 feet altitude, further reductions of 4% should be made.

#### **MANIFOLD STUDS**

Please note the studs supplied in the alloy manifold are a combination of threads.

The fixed studs, to attach the carburetter are M8.

The loose studs are M8 on one end and are 5/16 cycle on the other. On earlier engines the existing carburetter manifold is held on by 5/16 cycle studs, these will need replacing, as they are too long. Please ensure you use the end of the stud with the fine thread.

On later models, they use M8 Cap screws; these will need to be replaced by using the coarser end of the stud.